

If you have no use for this Catalogue kindly hand to some neighbor or friend whom you think contemplate building.

CATALOGUE

—OF THE—

Michigan Plank Frames!

The Strongest, Most Economical
Barn Frames in Use.



◆ NOTICE ◆

These Frames
are protected by **Letters Patent** and no one has a right to build
them without our license.



McCLEER BROS.,

Gregory, Mich.

OWNERS AND PATENTEES.



Local Agent.

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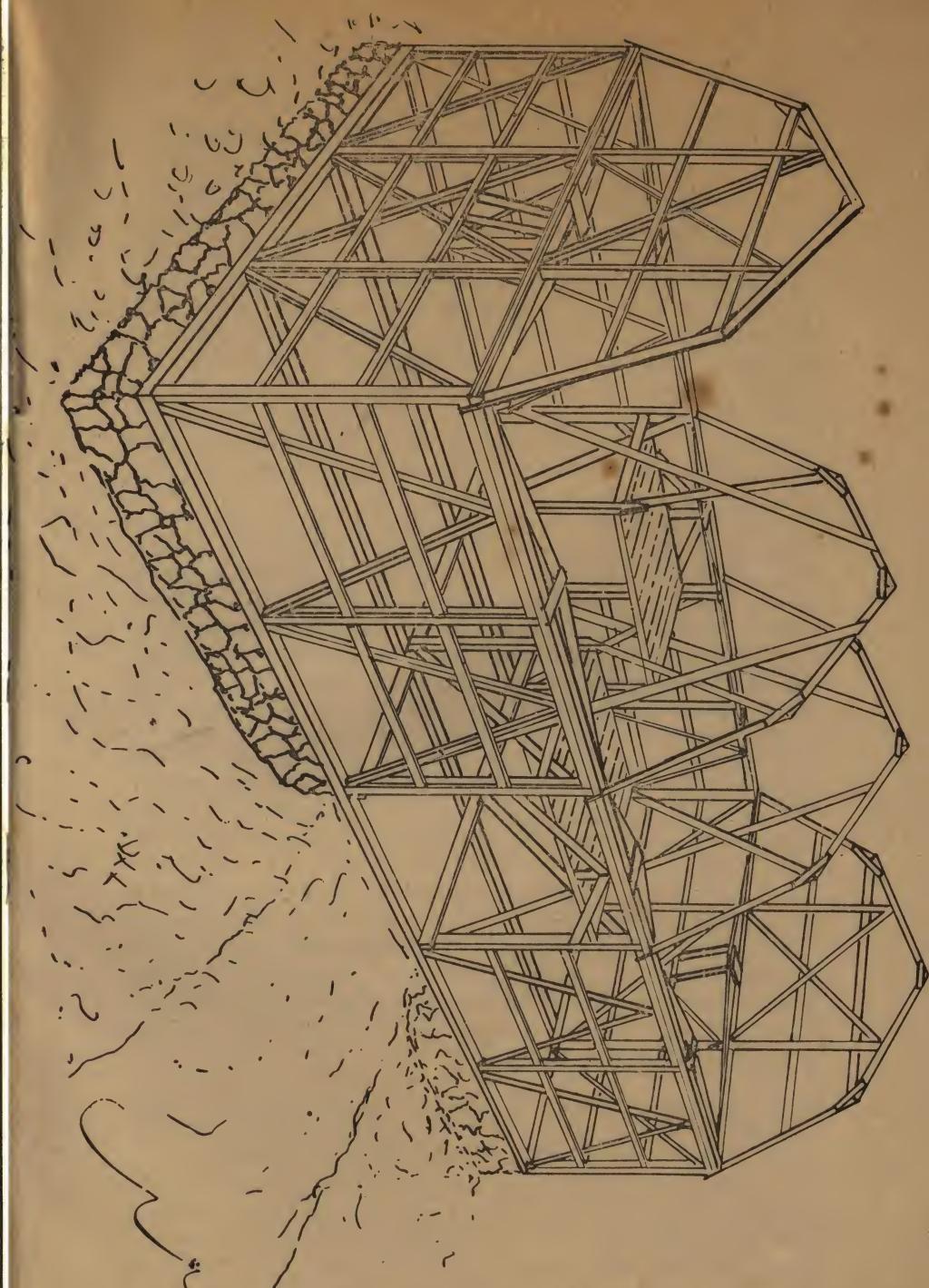
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From the collection of:

Alan O'Bright



The above cut represents the post frame with the exception of the intermediate rafters. The rafters shown are those immediately above the bents or cross sections.

The Michigan Plank Barn Frames.

In presenting you with this catalogue, which contains the necessary drawings and instructions for erecting the Michigan Plank Frames, we realize that farmers as a rule are prejudiced against this style of building for one of two reasons--either through lack of any knowledge of them whatever, they dislike to take up with anything new, or else in their travels, or perhaps in their own neighborhood they have seen what was styled a plank barn frame which did not give satisfaction; either the roof was sagged, the contents had bulged the sides, or the wind had racked the frame out of plumb. All of these faults are due to the builder's lack of knowledge of the way these frames should be put together.

While there are many ways in which plank may be joined together in the construction of a barn frame, there are few right ways, and experience alone teaches which of these is the most suitable. A carpenter may be a first-class workman and still not be able to build a substantial plank barn frame, without some previous experience along that particular line, for carpenters are like all other workmen, as we ourselves can testify, they can always find a chance for improvement in their work until by putting their whole attention to a certain line of work they bring it to that state of perfection where it is impossible to go any farther in the way of improvement. Do not judge that because some one frame that you have seen or heard of has proved a failure that they all must necessarily be failures.

The hesitancy that we sometimes show in the adoption of anything new is nothing but natural and in time as we become more accustomed to this style of building this prejudice will gradually die out, for in all localities where the Michigan Plank Frames have been built they have won the praise of all; even those who were at first opposed to them now unite in praising their good qualities.

The Strength of the Michigan Plank Frames Compared With That of the Timber Frame.

While we realize that the old timber frame has withstood the test and has given general satisfaction as regard to strength and durability, we have no hesitancy in saying that the Michigan Plank Frames are stronger in every way. Having built many frames of timber, as well as of plank, we are in a position to judge, and in this we are supported by all who

have in any way examined or compared the two. Where the Michigan Plank Frames excel in strength is in the bracing and in the manner of joining the beams where they intersect. The braces are longer, reaching from sill to plate, and are spiked at each end and to all other parts of the frame that they cross or come in contact with thus doing double the duty of a mortise brace, which holds only one way, and in time the frame by constant racking in the wind allows them to fall out entirely. In the Michigan Plank Frames there is more than double the amount of material used for bracing than would be used in a timber frame of the same size, therefore with double the material and every foot of the material doing double the duty of a mortise brace there is four times the strength in the bracing of a plank frame than that of the old style timber frame.

In the Michigan Plank Frames the manner of joining the beams where they intersect is such that they retain all or nearly all of the entire strength of the stick or timber used. In the old timber frame many are deceived by this. Do not judge the strength of a timber frame by the size of the timbers. Be the timbers ever so large they are usually cut away to a 2x8 or 2x10 tenant, and its strength must be judged accordingly. In our self-supporting gambrel roof we use no purlin; instead we use a plate on each side of the rafter at the hip making the rafter as strong in the hip as in any other part. This makes the roof self-supporting and much stronger than could be made if a purlin plate or beam were used. Some carpenters may at first object to this, but by a few minutes' study they will readily see their mistake. Where a purlin plate is used and the rafters toe-nailed to it from either side the strength of the rafter itself is entirely broken which throws the whole weight of the upper roof on the purlin plate, and unless it be unusually large it would spring out between bents and allow the roof to settle at the peak; the upper roof being quite flat it has a great purchase on the purlin plate. This would increase as the peak of the roof continued to settle. The Michigan Plank Frame we know to be perfect, the manner of putting the rafters together at the hip and every brace, bridge, tie and support throughout. These frames have been tested and are capable of withstanding any strain that would naturally be brought to bear upon them and are so put together as to obtain the best possible results from the amount of timber used. There are no loose braces, no loose ends, no mortising or draw-boring; you get the full strength of every piece.

The Cost of the Michigan Plank Frames Compared to That of the Old Style Timber Frame.

In our comparisons we will not exaggerate in the least but will give as near as may be the exact cost of labor and material needed in the construction of the different frames, as the illustrations show a frame which is 34x46 feet on the wall with 16 foot posts (or 16 foot to the square) we will take this as a basis on which to figure. As to cost of material and labor they vary considerably in different localities, however, as the comparison will be the same will use the present price of labor and material in this locality.

Cost of a Timber Frame, 34x46, 16 Foot Posts, Common Roof, No Basement.

Number of feet of material, board measure, 12,769;	
all timbers running lengthwise of building to be spliced in center; length of timbers from 10 to 34 feet; average cost \$18.00 per thousand. Total cost of material,	\$229.84

COST OF LABOR.

Number of days to prepare frame for raising 36,	
\$2.00 per day, - - - - -	\$ 72.00
Number of meals 108, 12½ cents per meal, - - -	13.50
Number of meals day of raising 50, - - - - -	6.25
Total Cost, - - - - -	\$321.59

Cost of Timber Frame, 34x46, 16 Foot Posts, Gambrel Roof, No Basement.

Material, 14,269 feet, - - - - -	\$256.84
Labor, 40 days, \$2.00 per day, - - - - -	80.00
Meals 120 } 170, at 12½c per meal, - - -	21.25
Total, - - - - -	\$358.09

Please note we allow nothing for labor of raising.

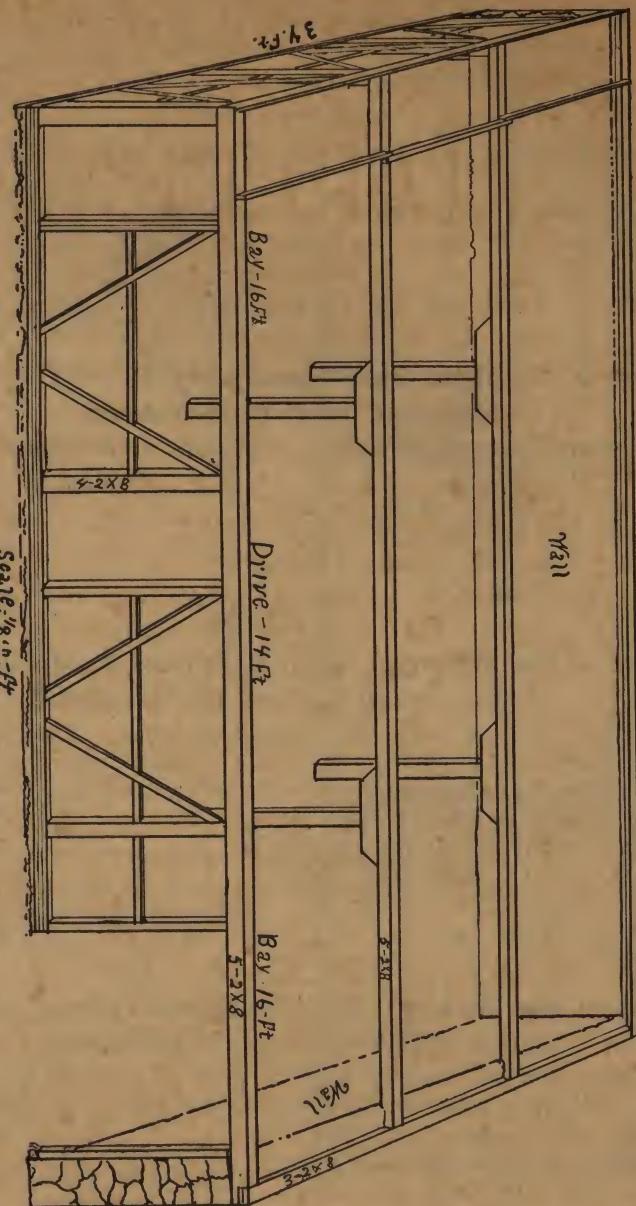
...SPECIAL...

We want a good reliable man in every township to build one of these frames and act as our agent. To do this requires no canvassing unless so desired. What we do require is that when parties come to view your frame you hand them one of our catalogues, which we furnish you, and show them your frame. If they are suited with it and desire to build fill out an order blank and forward it to us with the regular price and receive by return mail the permit to build. We will appoint only ONE agent in each township, therefore if you have any idea of building one of these frames and have no local agent write immediately for our terms to agents and secure the agency for your township. First come first served. Please give township and county in which you reside. An application for a permit to build must be accompanied by the regular price per foot. Remittance by Bank Draft, Express Postal Order, or Registered Letter must be with order.

Address,

McCLEER BROS.,

Gregory, Mich.



Basement of Post Frame

**Cost of Michigan Post Frame, 34x46, 16 Foot Posts,
Common Roof, No Basement.**

Number feet of material, board measure, 8,080 feet,
length of material 10 to 16 feet; price per
thousand \$14.00. Total cost of material, - - - \$113.12

COST OF LABOR.

Frame raising and complete—12 days' work, \$2.00 per day, - - - - -	\$ 24.00
400 pounds of nails, \$3.00 per hundred, - - - - -	12.00
36 meals, 12½ cents per meal, - - - - -	4.50
 Total cost, - - - - -	 \$153.62

**Cost of Michigan Post Frame, 34x46, 16 Foot Posts,
Gambrel Roof, No Basement.**

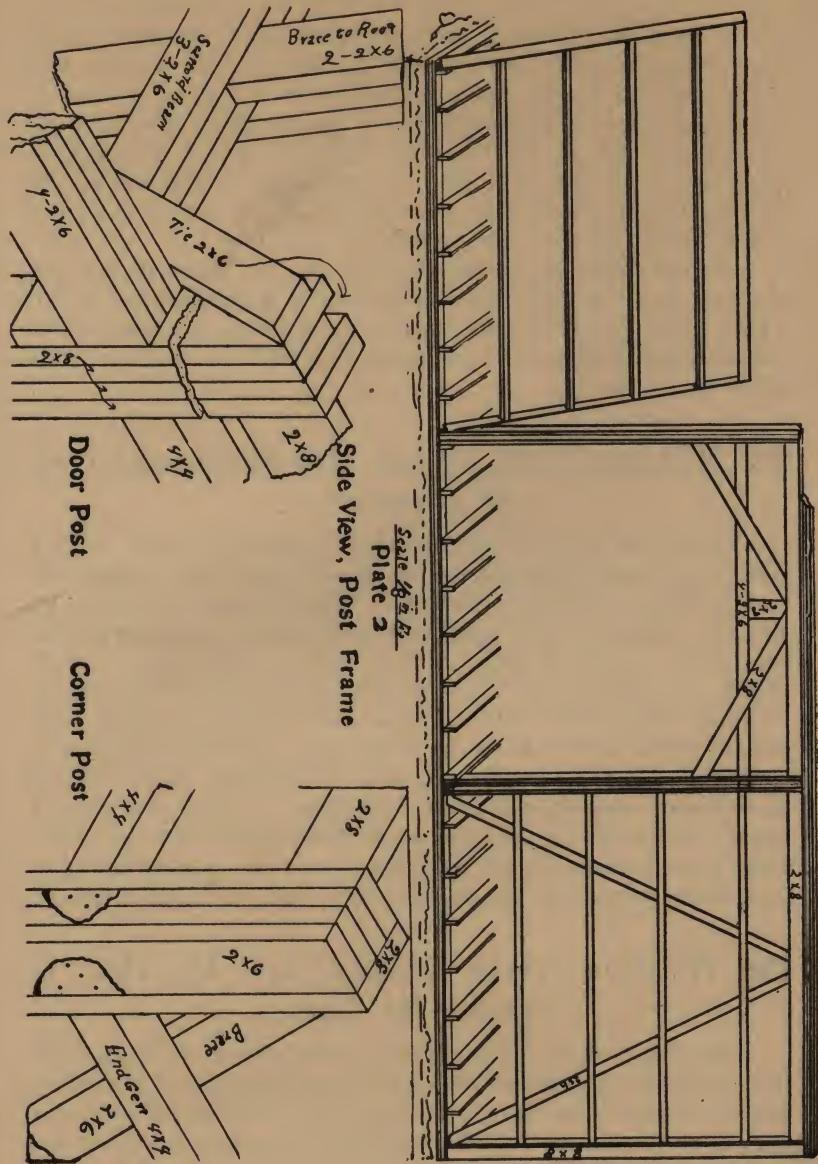
Amount of material 9,671 feet, at \$14.00 per thousand, \$135.39	
Nails 400 pounds, - - - - -	12.00
Labor, 12 days, \$2.00 per day, - - - - -	24.00
Meals 36, 12½ cents per meal, - - - - -	4.50
 Total cost, - - - - -	 \$175.89

**Cost of the Michigan Balloon Frame, 34x46, 16 Foot
Posts, Common Roof, No Basement.**

Number feet of material, board measure, 7,342, length of material 10 to 16 feet; price of material \$14.00 per thousand. Total cost of material, - - - \$102.79	
400 pounds of nails, - - - - -	12.00
Labor, 12 days, \$2.00 per day, - - - - -	24.00
Meals 36, 12½ cents per meal, - - - - -	4.50
 Total cost, - - - - -	 \$143.29

**Cost of the Michigan Balloon Frame, 34x46, 16 Foot
Posts, Gambrel Roof, No Basement.**

Number feet of material 8,933, length 10 to 16 feet; price per thousand \$14.00. Total cost, - - - \$125.06	
Nails, 400 pounds, - - - - -	12.00
Labor, 12 days, \$2.00 per day, - - - - -	24.00
Meals 36, 12½ cents per meal, - - - - -	4.50
 Total cost, - - - - -	 \$165.56



The Michigan Plank Frames Are Convenient for the Use of Modern Hay Tools.

One of the greatest advantages of these frames lies in their being in every way suited to the use of modern hay slings and hay forks, there being no cross-beams whatever, leaving a space on either side of driveway from floor to peak of roof clear of all obstruction, which does not interfere in any way with the strength of building. The manner of bracing the interior bent makes it impossible for the frame to spread in the least. (See plate 4.)

In unloading hay with slings it can be taken direct into the bay from the load, then by giving it a gentle push it will swing like a pendulum and may be dropped in any part of the bay desired. This will save horse flesh and also an extra man in mow.

The Michigan Plank Frames Are Simple and Easy to Construct.

With the use of the printed instructions one with a limited amount of experience as a carpenter can understand and superintend the building. These frames require no raising. They are put up as you would put up a house frame, requiring no more help. Four men is the most that is required at any one time during the construction of the frame. Commencing at the bottom it is built piece by piece with braces, girts, ties and trusses to the top, and with everything well spiked it makes a frame that is perfectly solid and one that if kept covered will last for all time. In the building of these frames there is no high scaffolding; the rafters are raised from a scaffold on a level with the plate; the gables have no scaffolding whatever, the cornice being put on from the roof.

The Michigan Plank Frames Are All That Is Claimed for Them.

For the past 15 years we have been personally engaged in barn building throughout Southern Michigan and of the many barns we have built there is not one but what is as straight and perfect as it was the day of completion, although some of the first have not all the improvements of the modern Michigan Plank Frames. It is a fact that in all localities where the Michigan Plank Frames have been introduced they have attracted wide-spread attention. This is owing to their

cheapness, which means a saving of over 50 per cent in their cost, and in their being in every way suited to the use of modern hay tools. A glance at one of these frames after it has been erected is sufficient to convince the most skeptical that they are all that is claimed for them, for they have a strong and substantial appearance unlike many of the so-called plank and balloon frames.

In purchasing the right to build one of the Michigan Plank Frames you get the benefit of our experience in barn building, which extends over a period of fifteen years, and insures you against any local contractor experimenting at your expense. We guarantee these frames to stand and give perfect satisfaction, if built according to instructions. Our charge for a permit to build either the post or balloon frame is 25 cents per lineal foot, regardless of height or width. No extra charge where basement is used. Price for roof alone 15 cents per lineal foot,

Instructions for Constructing the "Michigan" Post Frame.

Lay and level sill on basement wall of 3—2x10, spiking it as it is put together.

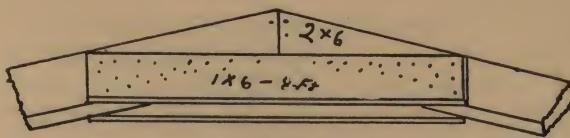
Build main posts of 4—2x8. Place plumb and stay, toe-nailing at the bottom with wire spikes. These posts should be placed directly under the posts above.

Build side sill on top of posts of 4—2x8 edgewise up, and connecting at corner with upper sill, which is similar to lower sill as shown in cut. On end of building, where basement is of frame work, use single 2x8 edgewise up for upper sill, (plate 3.) Put in braces and girts of 4x4, cutting girts between, toe-nailing at the ends. Get length of collar posts by drawing line across top of sills (this saves leveling stone) taking out 8 inches for cross-sill. Make posts for cross-sill of 5—2x8 with collar attached. Place, plumb and stay, (post may be shifted either way if desired) then proceed with sill as before, using 5—2x8 edgewise up, letting them into wall at end, (removing the necessary stone) and halving onto end sill. Place joists overhead of 2x8, 2 feet centers, except under driveway and grain bins; these should be 16 inch centers. Straighten cross-sills and spike joists firmly at each end, as they act as a tie to hold building together.

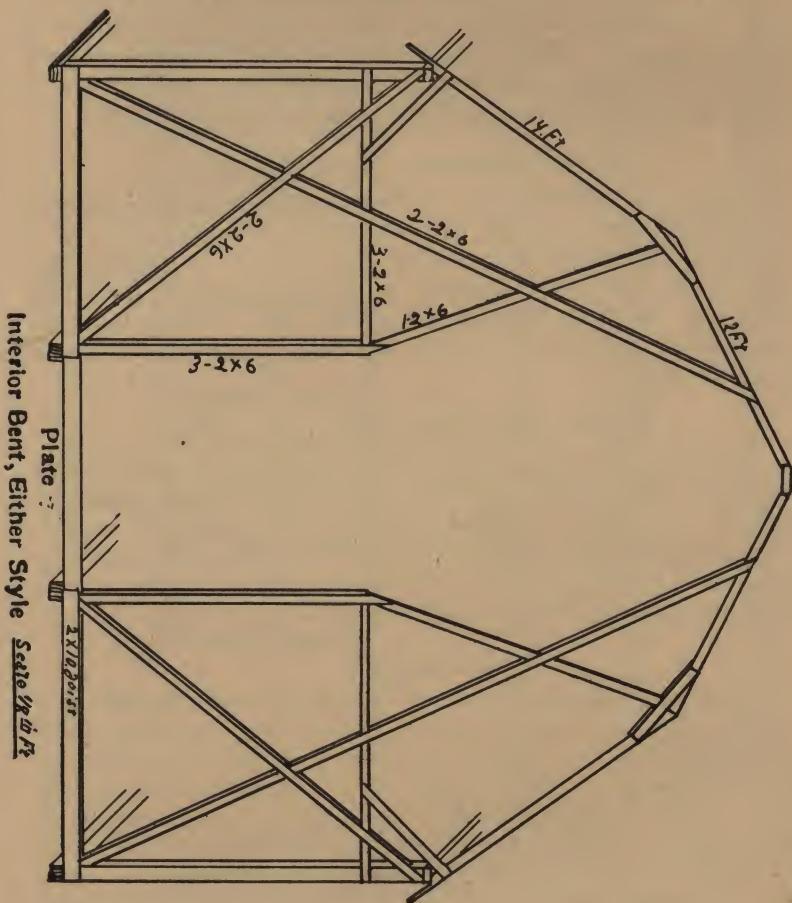
Upper posts are made of 4—2x8 spiked together (plate 2.) Girts are spiked between posts before raising, spiking through 2x8 into end of girt, using 30-penny spikes. Then raise as shown on plate 2, starting at one corner and continuing around building, putting in ties on each side of driveway as you go. Build plate and spring beam on top of posts of 3—2x8, and in bridge form as shown on plate 3, putting in brace underneath point of bridge to prevent hay from pressing it down. Put in braces of 2x6 as shown on plates 2 and 3, spiking at the ends and to girts. Make beam over driveway door of 4—2x6, put in same as girts. Put in braces over door of 2x8 as a support to plate, making top of opening slightly octagon in shape, which does not interfere in any way with passing in and out, making the doors, however, as if opening was square.

After siding the basement and upper part.

Construct lower half of interior bent, and build scaffold over driveway, if one is required. Spike 2x8 from one scaffold post to the other across center of building on each side of driveway. (These must not be removed until interior bent is complete, as shown on plate 4.) Lay plank onto these and onto spring-beam for the purpose of raising rafters. Nail rafters well together at hip with a 1x6, 4 feet long on either side, using one having been nailed as a model. This will insure evenness of hip. If upper rafters are over 12 foot long use a 1x12 instead of 1x6 on each side of hip, covering the entire joint. Place foot of rafters in position and nail peak together, a 1x6, 1 foot long, across peak. Raise with pike at each hip, commencing at either end and working to center of building. Fill in gable ends as shown on plate 3, using posts of 3—2x6, girts and braces put in same as below. Having partially roof-boarded building, finish interior bent as shown on plate 4. Single 2x8 or 2x10 may be used for tie and brace to roof if desired.



Sec of Rafter
Showing Hip



Interior Bent, Either Style Scale $\frac{1}{8}$ in. to 1 Ft

Instructions for Constructing the "Michigan" Balloon Frame.

Lay and level sill on wall in basement of 2—2x10. Use studding of 2x8, 2 feet centers, with sill on top of 2—2x8, continuing around building. Cut girts between studding of 2x4 edgewise up, using 2x6 for braces; also cut between the two filling out the width of studding, see plate 5. Construct cross-sills same as plank frame, using same joists put on in same manner. Raise upper studding of 2x6, 2 feet centers, setting them back 2 inches from face of sill and plate, spiking to joists at lower end. Spike braces and girts of 2x4 on outside of studding, coming out flush with sill and plate, see plates 6 and 7. Build plate and spring beam same as post frame, doing away with the 2x8 edgewise up. Stud and girt gable same as below. Construct roof same as post frame.

Where Common Roof Is Used.

Construct frame same as instructions for post or plank frame, with the exception of roof and interior bent.

In a frame for a common roof we use a purline and interior bent, as shown on plate 8, using for purline plate two 2x10 and one 2x4, built as shown in cut. Braces can be adjusted as bay varies in width, putting in gable end same as gambrel roof.

Where Horizontal Siding Is Used.

Use balloon frame, doing away with all girts, set studding out flush with sill and plate, put braces on inside instead of outside of frame. We do not recommend horizontal siding, as the grain running crosswise it holds the moisture, which will cause it to rot. It will also allow the rain to beat through more or less and paint will not wear as long.

Conditions.

The plates show a building 34x46 feet, 16 feet posts, and 8 foot basement. Lower rafters 14 feet long, 18 inches raise to 12 inches run. Upper rafters 12 feet long, 6 inches raise to 12 inches run. This makes a well proportioned and strong roof. Lower rafters should be from 2 to 6 feet longer than those above. Shape of roof may be adjusted to suit.

Where a gambrel roof is used the hay and grain capacity is so great that the basement frame should be built unusually strong, therefore where a building is over 34 feet wide use 2x10 for joists and in constructing the two cross-sills. Posts of 5—2x8, upper sill of 5—2x8 instead of 4.

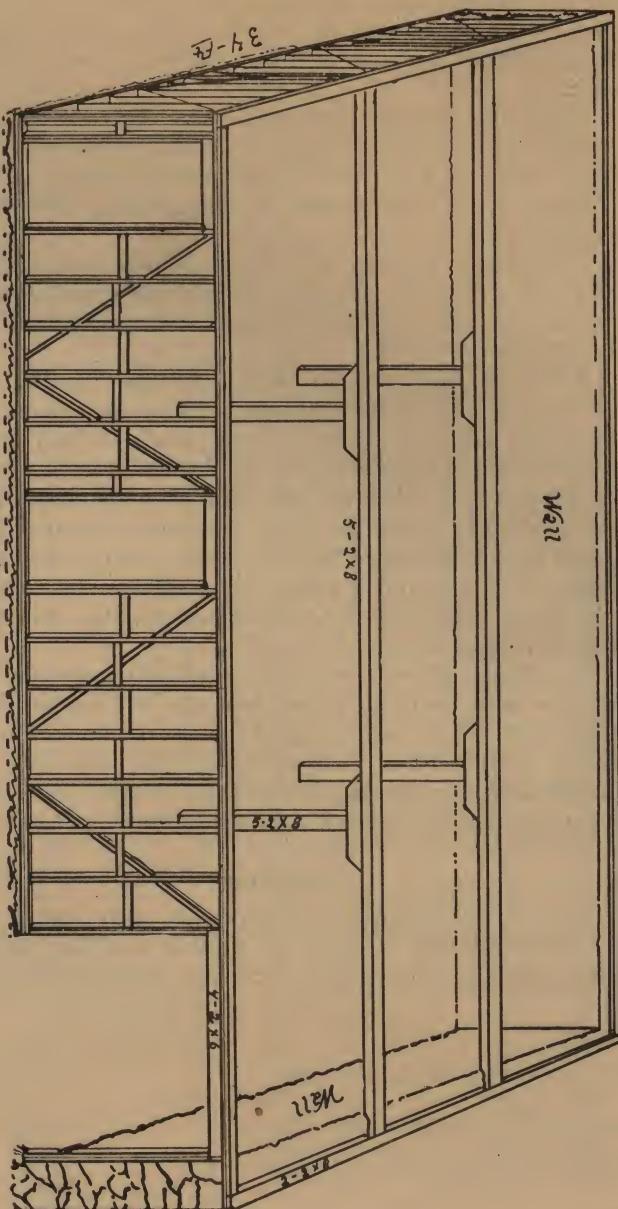


Plate 5
Basement of Balloon Frame

Scale $\frac{1}{8}$ in. - 1 ft.

If the building is 38 feet wide or over use a double bridge plate and spring-beam, as shown on plate 3. In the post frame where bay is over 18 feet deep use another post on side half way across, putting in braces between posts, as shown on plate 2.

When desired square timbers may be used for basement posts and cross-sills, or where it is desired to work in an old frame. Construct the whole basement of square timbers.

Hewn joists may be used by champering off ends to allow spiking to sills.

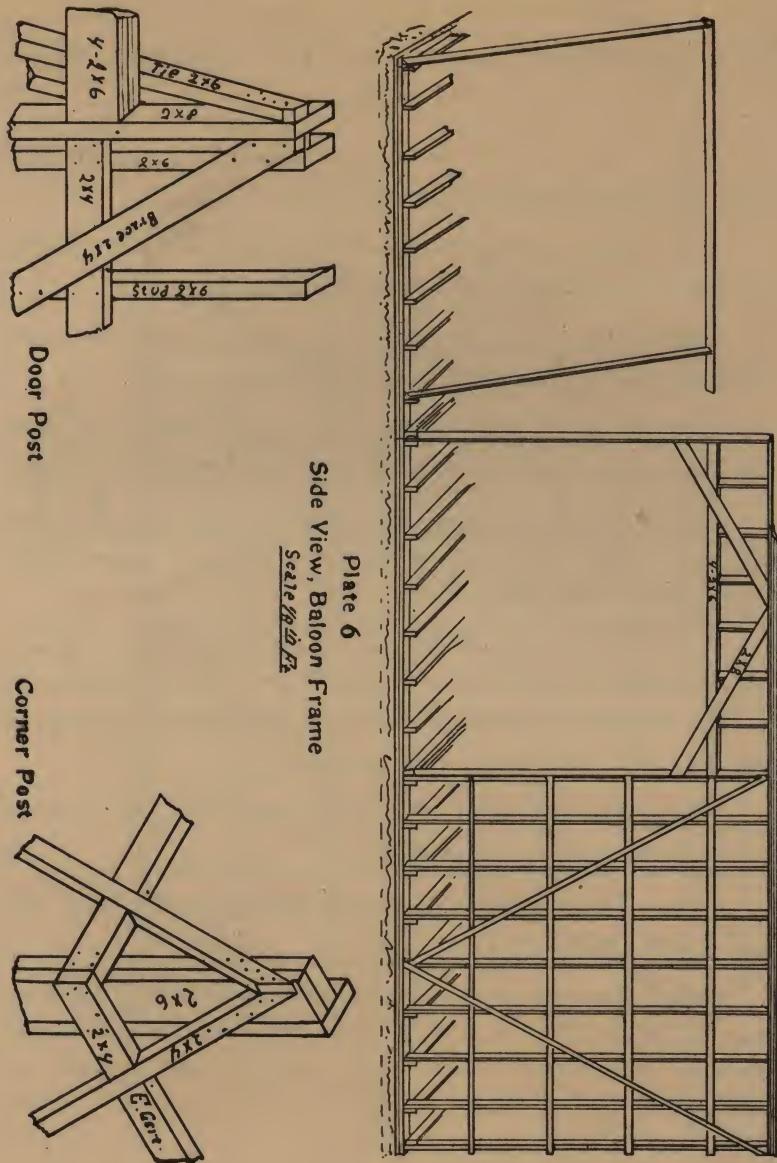
In building a frame with no basement use a sill of 2 or 3—2x8, according to frame. Use same cross-sills, resting them on butments, and extend them under as much of building as it is desired to floor.

For stock barn with hay loft.—In most buildings of this kind we prefer the balloon frame. Run the joists crosswise of building, same as lower joists, resting them on a 1x12 spiked to inside of studding at the desired height, letting the joists project by, which are also spiked to studding. Support joists in center, same as over basement, plates 1 and 5. Support roof with upper half of interior bent, plate 4, placed at intervals of not over 24 feet, allowing the brace to roof to extend down below the floor as far as possible without interfering and spike to outside studding.

In a frame where there is no scaffolding over driveway or where the bays are of sufficient depth to require a cross-section in the center set the scaffold post back directly under the hip, raise the scaffold beam close up under the plate and brace on each side back to plate similar to brace on the corner. This will prevent the contents of barn from racking it over.

Spiking.

Use 30d for spiking through plate into end of studding or into end of joists; 16d for toe-nailing studding and rafters to plate and sill; where 3-ply or more are nailed together use 40d.



The Advantages Claimed for the Michigan Plank Frames.

1st. The cost of these frames is less than one-half than that of a timber frame of the same size.

2nd. The building of these frames requires no raising as would be necessary for a timber frame.

3rd. Four men is the most that is required at any one time during the construction of the frames.

4th. Logs from scrubby trees that would not make square timbers can be sawed and used in a frame of this kind.

5th. No cross-beams to interfere with hay slings, leaving a space on each side of driveway from floor to peak of roof clear of all obstruction.

6th. No racking of the frame by the wind as is common with a timber frame, or a frame that is put together with bolts. When this frame is thoroughly spiked it can not move an atom, but will remain as it is placed.

7th. The sides and ends of the frame will never bulge out with our system of trussing.

8th. The roof will never sag or settle out of shape, but will remain as it is put on.

9th. This self-supporting gambrel roof can be placed on an old timber frame at a very little extra cost, which would increase the storage room nearly one-half, and would also improve the looks of the building.

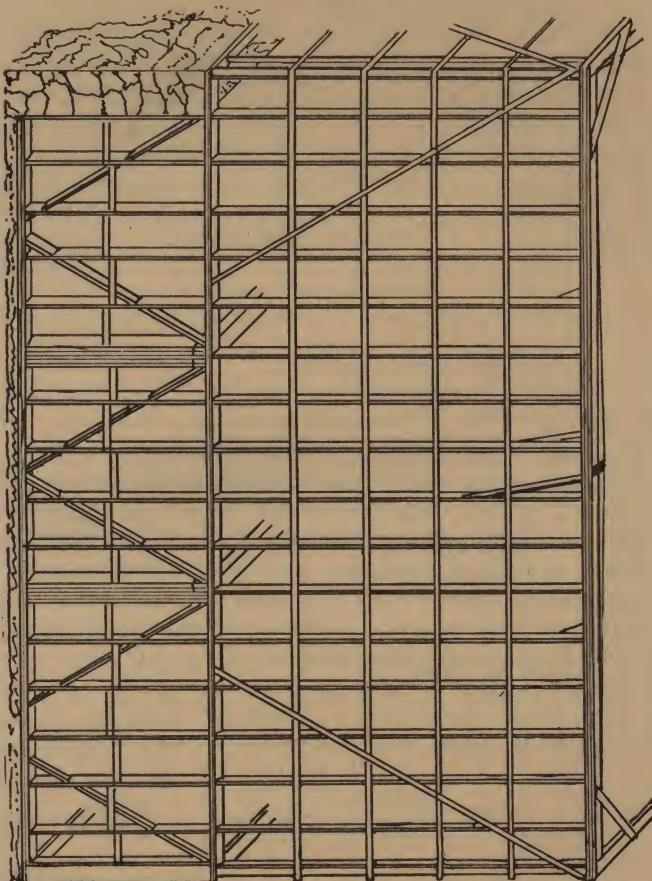


Plate 7
End Bent, Balloon Frame
Size 22 in. x 27 in.

Testimonials.

“McCleer Bros., of Gregory, Mich., built me one of their Michigan Plank Frame Barns, size 34x60 feet, 8 foot basement, 16 foot posts above, with gambrel roof, and I can say that could I exchange it for a timber frame at the same price I would not, for I believe the Plank Frame, put together as is mine, to be superior in every way. My barn has been visited by several parties from different parts of the county, and I have yet to hear anyone bestow upon it anything but the highest praise. I can further say to those who contemplate building that I am satisfied that these frames can be built for one-half less money than timber frames, and be just as substantial.”

EDWARD DOODY, Unadilla, Mich.

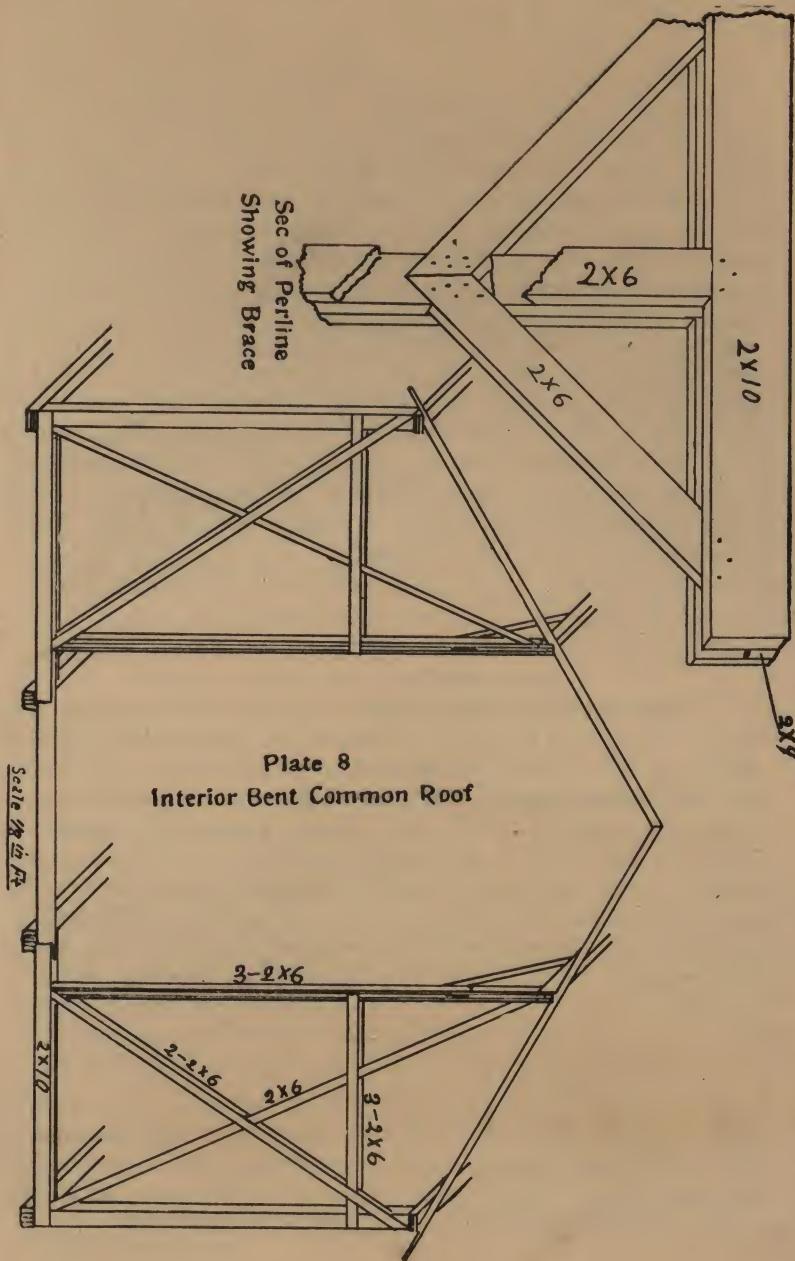
“To Whom It May Concern:

I have a Balloon Frame Barn built by McCleer Bros. in the spring of '98. Its dimensions are as follows: 36x80, 16 foot studding, gambrel roof with two cupolas. Barn has two driveways, stalls for 10 head of cattle, granary of 2,500 bushel capacity, store room 20x24 for farm machinery, sufficient room to accommodate 200 sheep, room in hay loft for 80 tons of hay, hay slings and track complete, all finished in the best workmanlike manner by 12 workmen in seven days of 10 hours each, or 84 days in all. To build the same barn of timber frame would have taken at least 150 days. Not only is this style of building a great saving of labor, but it is also a great saving in lumber. I believe a frame put up in this manner to be equal, if not superior, to any frame used.”

A. C. COLLINS, Stockbridge, Mich.

“The self-supporting gambrel roof used on the Michigan Plank Frames I believe has no equal for strength. In drawing hay I use only two slings. At different times the upper sling has been accidentally dumped on the load when I would take the entire load, weighing not less than one ton, into the bay at one draft. The roof not only supports this draft but also the weight of a large cupola, which is directly above the driveway.”

JOSEPH BOWEN, Gregory, Mich.



"I wish to state for the benefit of those who are not acquainted with the Michigan Plank Barn Frames that I have one on my farm, which is situated in the northern part of Washtenaw county. This barn was built in 1898; I used the balloon style with gambrel roof. Ten years previous to the time of building the balloon frame I built a heavy timber frame. The two barns stand side by side in the same yard. Since building the balloon frame I have been surprised to note the difference in the two during a heavy wind. While the timber frame would rack and tremble as if it were about to collapse, I could not distinguish the least tremble in the balloon frame. Before building this frame I was in doubt as to its stability, but realizing that the cost would be less than one-half of that of a timber frame of the same size I decided to build it and am now more than satisfied. I would not exchange it for a timber frame at the same price, for I believe it to be a stronger frame, and to those who contemplate building who wish a cheap, durable, and a modern up-to-date barn I would recommend by all means the Michigan Plank Frames."

WM. CLARK,

R. F. D. No. 2, Pinckney, Mich.

"McCleer Bros. built me one of their celebrated Balloon Frame Barns and I can say that I am more than satisfied, believing them to be all that is claimed for them. Not only are they much cheaper, but in my judgment they are stronger than timber frames. In one of these frames all braces and, in fact, every part is thoroughly spiked and held in place, while in a timber frame the braces especially are mortised in, and only one-half of them ever do any good. Will further state that I would not exchange my barn for any other that I have seen."

IRVING PICKELL, Unadilla, Mich.

"To those who contemplate barn building who wish a modern up-to-date barn I would cheerfully recommend the Michigan Plank Frames. Having built one which I have used for some time I know them to be all right and a first-class frame in every particular."

JOHN M. HARRIS,

Pinckney, Mich.

"In the summer of '97 my barns were struck by lightning and burned to the ground. I began immediately to look around to see about erecting new ones. I found that it was almost impossible to procure timbers of sufficient length for a timber frame, and realizing that a plank frame could be built much cheaper I decided to adopt this style of building. I erected two Balloon Frames according to McCleer Bros' patent, called the Michigan Plank Frames. These frames, costing less than one-half what timber frames would have cost me, have given the best of satisfaction. So much so that needing another barn this spring, 1901, I built it after the same style. I believe these frames to be the best barn frames in use."

HATTIL SHARP, Stockbridge, Mich.

MARATHON, New York, 8-19, 1901.

MESSRS. McCLEER BROS.,

Gregory, Mich.

In answer to yours of recent date asking if I had built one of your frames and my opinion of them, I would say that I have built one of your frames and it is in every way satisfactory. My main barn is 36x60, with 8-foot basement, 16-foot posts above, and hip roof, with a wing 36x40, same height. I consider these frames practical in every way.

Yours, etc.,

W. J. BLISS, Marathon, N. Y.

WILSON, New York, August 26, 1901.

MESSRS. McCLEER BROS.,

Gregory, Mich.

In answer to yours asking my opinion of the Michigan Plank Frames, would say that I built a barn last summer 40x80 feet, with 9-foot basement, 16 feet from basement to plate, and a gambrel roof; built after your plans; would say that I like them very much. My carpenters pronounced it the strongest and firmest frame they ever worked on. Homer Roberts, of North Ridge, New York, superintended the work.

Yours Very Respectfully,

E. E. STEVENS, Wilson, N. Y.

We have many more testimonials treating along the same lines.

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HOWELL, MICH.:
The Livingston Democrat Print.
— 1901. —